IN THE CLAIMS:

Cancel claim 1 without prejudice or admission and add new claims 39-45 as shown in the following listing of claims, which replaces all previous listings and versions of claims.

1.-38. (canceled)

39. (new) A method of operating a heat engine having a sliding vane rotary vane compressor and a sliding vane rotary vane turbine, comprising the sequential steps of:

a first step of intaking a fluid in an intake phase into a working chamber of the rotary vane compressor at ambient pressure;

a second step of compressing the fluid in a compression phase in the working chamber by rotating a rotor of the rotary vane compressor up to 360° of rotation;

a third step of mixing the compressed fluid with a fuel and igniting the mixture in an initial combustion phase in a combustion chamber external to both the rotory vane compressor and the rotory vane turbine to carry out a limited temperature constant volume combustion process;

a fourth step of subjecting the combustion products from the third step to a constant pressure combustion process in a final combustion phase followed by a power expansion

phase in an expansion chamber of the rotory vane turbine by rotating a rotor of the rotory vane turbine up to 360° so that the pressure of the combustion products within the turbine expansion chamber reaches ambient pressure or near ambient pressure when the turbine expansion chamber volume reaches its maximum; and

a fifth step of exhausting the combustion products in an exhaust phase from the expansion chamber.

40. (new) A method according to claim 39; wherein for each 360° of rotation of the rotors of the rotory vane compressor and the rotory vane turbine, there are two complete and consecutive cycles of intake, compression, combustion, power expansion and exhaust phases.

41. (new) A compound propulsion engine comprising: a primary stage including an axial compressor having compressor blades and a rotory shaft defining an axial direction such that ram air is compressed and exits the axial compressor in the axial direction, a sliding vane rotory vane turbine driven by the exiting compressed air and connected by an interconnecting shaft to rotationally drive the axial compressor, and a combustor that is disposed downstream of the axial compressor and that adds heat energy to the exiting compressed air to produce combustion products; and a secondary

stage including an axial turbine having turbine blades and a rotary shaft extending in the axial direction and driven by the combustion products exiting the combustor, and a sliding vane rotary vane compressor connected by an interconnecting shaft to the axial turbine so as to be rotationally driven by the axial turbine, the sliding vane rotary vane compressor being connected to receive and further compress a portion of the ram air or a portion of the compressed air exiting the axial compressor to produce a secondary compressed air flow that is directed through one or more transfer passages to an intake of the sliding vane rotary vane turbine.

42. (new) A compound propulsion engine according to claim 41; further including a reheater disposed in one of the transfer passages.

43. (new) A compound propulsion engine according to claim 41; further including an intercooler disposed in one of the transfer passages.

44. (new) A compound propulsion engine according to claim 41; wherein the first and second stages are aero-thermodynamically coupled to each other and are not mechanically connected together by a shaft.